DESIGN 250

PR-1250

This product manual contains important information about the safe installation and use of this projector. Please read and follow these instructions carefully and keep this manual in a safe place for future reference.

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Please note that as part of our ongoing commitment to continuous product development, specifications are subject to change without notice. Whilst every care is taken in the preparation of this manual we reserve the right to change specifications in the course of product improvement. The publishers cannot be held responsible for the accuracy of the information herein, or any consequence arising from them.

Every unit is tested completely and packed properly by the manufacturer. Please make sure the packing and / or the unit is in good condition before installation and use. Should there be any damage caused by transportation, consult your dealer and do not use the unit. Any damage caused by improper use will not be assumed by the manufacturer and / or dealer.

ACCESSORIES

THESE ITEMS ARE PACKED TOGETHER WITH THE PROJECTOR
Safety cord (1PCS)
Barndoors (1SET) (including 4 copper stand-offs, 4 screws and 4 flat washers)
This manual (1PCS)

INTRODUCTION

Thank you for purchasing the Design 250, PR-1250.
This product manual contains important information about the safe installation and use of this projector. Please read and follow these instructions carefully and keep this manual in a safe place for future reference.
The Design 250 is a projector of innovative, compact, silent colour changing, capable of extraordinary performances in terms of colour mixing, reliability and versatility. The product complies to CE norms and standards and uses international protocol DMX 512. The Design 250 is particularly suitable for television studios and theatres, stage lighting, limelights, backdrops, inside or outside shops and shopping centres, sport centres and almost all architectural applications.
The Design 250 features 6 kinds of colour filters for CYM colour mixing and 2 blades for shutter/dimmer. The product has light level sensor track system which can adjust the status of product automatically. And the projector can be setup easily via the touch-switches and LCD display.

SAFE USAGE OF THE PROJECTOR

When unpacking and before disposing of the carton check there is no transportation damage before using the projector. Keep the carton well for future possible transportation. Should there be any damage caused by transportation, consult your dealer and do not use the projector.

The projector is suitable for indoor or outdoor use and is rated at IP65.

The projector is not designed or intended to be mounted on to inflammable surfaces.

The projector is only intended for installation, operation and maintenance by qualified personnel.

The projector must be installed in a location with adequate ventilation, at least 50cm from adjacent surfaces. Be sure that no ventilation slots are blocked.

Do not project the beam onto inflammable surfaces, minimum distance is 3m. 3m

Hot housing surface! Do not touch the housing of the projector with your hand during operation.

Avoid direct exposure to the light from the lamp. The light is harmful to the eye.

Do not attempt to dismantle and/or modify the projector in any way.

Electrical connection must only be carried out by qualified personnel.

Before installation, ensure that the voltage and frequency of power supply match the power requirements of the projector.

It is essential that each projector is correctly earthed and that electrical installation conforms to all relevant standards.

Do not connect this device to any dimmer pack.

Make sure that the power-cord is never crimped or damaged by sharp edges. Never let the power-cord come into contact with other cables. Only handle the power-cord by the plug. Never pull out the plug by tugging the power-cord.

Keep the lamp clean. Do not touch the lamp with bare hands.

The projector should always be installed with a secondary safety fixing. A safety cord is supplied for this, it should be attached as shown in “installing the projector” section.

The lamp used in this projector is a PHILIPS CDM-T 250W/830 discharge lamp. After being switched off don’t attempt to restart the projector until lamp has cooled, this will require approx 15 minutes. Switching the lamp on and off at short intervals will reduce the life of both the lamp and the projector, but occasional breaks in operation will prolong the life of the lamp and projector.

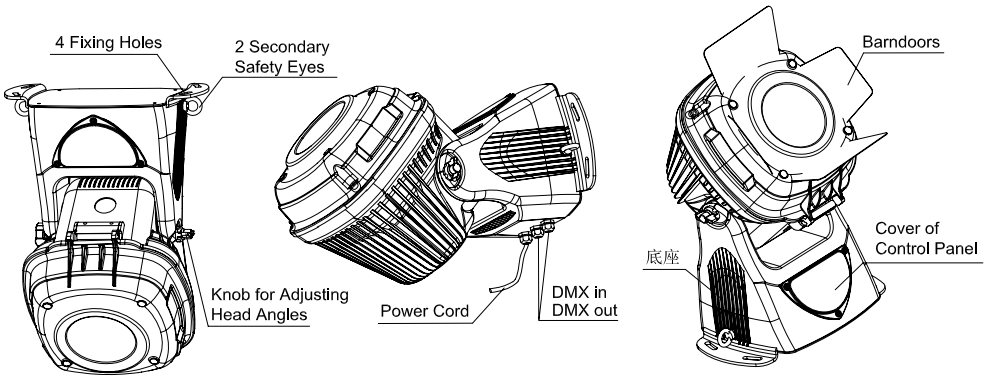
Never run the projector without a lamp.

There is no user serviceable parts inside the projector, do not open the housing and never operate the projector with the covers removed.

Always disconnect from the mains, when the device is not in use or before cleaning it or before attempting any maintenance work.

NOTE: <u>PLEASE REMOVE THE SPONGE EFFECT LOCKING CYLINDER INSIDE THE PROJECTOR BEFORE OPERATING!</u>
(How to open the access cover please refer to “fitting the lamp” section)

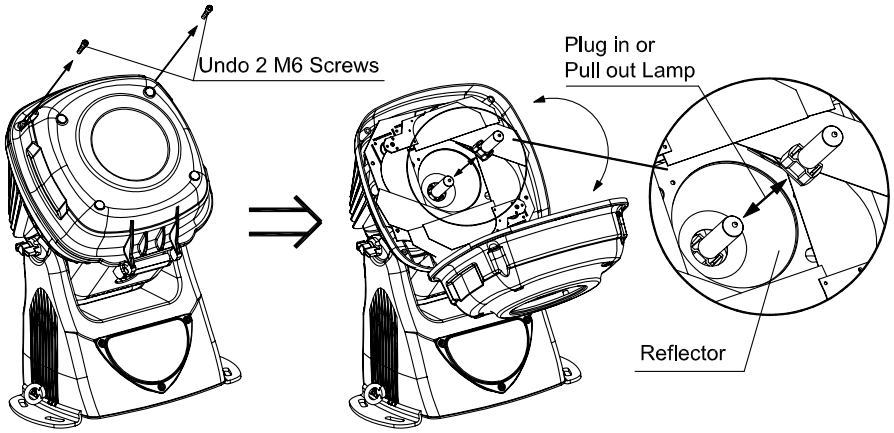
INSTALLING THE PROJECTOR



Fitted on the Ceiling Fitted on the Wall Fitted on the Floor

The unit was designed to make installation easy: it can be fitted on a floor, wall or ceiling as required and will operate in any working position, as the head can be rotated through 90°.
Always ensure that the projector is firmly anchored to avoid vibration and slipping whilst functioning. Always ensure that the structure to which you are attaching the projector is secure and is able to support each Design 250. For safety the projector should have a secondary fixing with a safety chain through the 2 secondary safety eyes on both sides of the unit.
Note: For installing the barndoors, first install the 4 copper stand-offs in the unit head, and then place the barndoors on the 4 copper stand-offs and fasten them with 4 screws and flat washers.

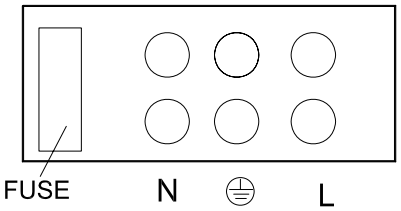
FITTING THE LAMP



Loosen the 2 M6 screws and then open the head cover as shown in the figure above.
Reveal the lamp holder by gently moving the colour filters and blades aside from the center.
Plug the lamp into the lamp holder. **Note:** To avoid premature lamp failure, do not touch the lamp glass with your fingers. If you touch the lamp during installation, clean it carefully with rubbing alcohol and a clean, lint-free cloth before operation.
Close the cover and then tighten the 2 M6 screws.

NOTE: The CDM series are high pressure lamps with external igniters (⚠). Care should always be taken when handling these lamps. Always read the manufacturers "Instructions for use" enclosed with the lamp.

POWER CONNECTIONS



N = BLUE

⏚ = YELLOW/GREEN

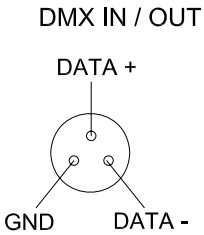
L = BROWN

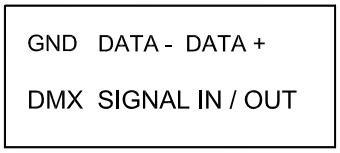
Use the power cord provided to connect the mains power to the projector. The user can connect by yourself what you need. Open the underside of the base by undoing the 4 screws. You can see as shown in the figure above. To connect the power cord to the relevant holder. To pay attention to the voltage and frequency marked on the panel of the projector. It is recommended that each projector is supplied separately so that they may be individually switched on and off.

IMPORTANT

It is essential that each projector is correctly earthed and that electrical installation conforms to all relevant standards. Power consumption of the Design 250 is 350W at 220V.

CONTROL CONNECTIONS



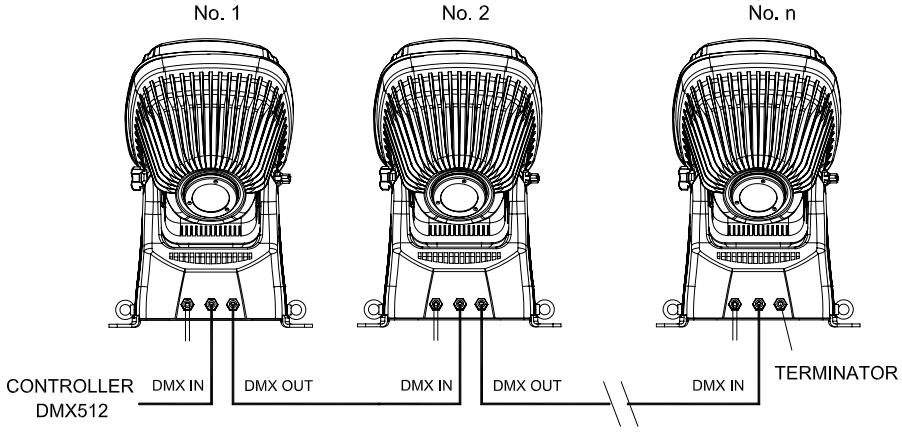


Connection between controller and projector and between one projector and another must be made with 2 core screened cable, with each core having at least a 0.5mm diameter.

Use the 2 XLR cords provided to connect the control to the projector. The user also connects by yourself what you need. Open the underside of the base by undoing the 4 screws. You can see as shown in the figure above. To connect the XLR cord to the relevant holder.

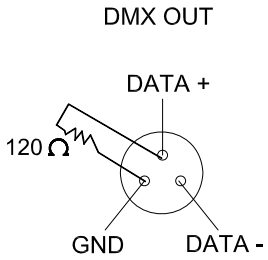
The Design 250 accepts digital control signals in standard DMX512 (1990) format.

Connect the controller's output to the first fixture's input, and connect the first fixture's output to the second fixture's input. The rest may be deduced by analogy. Eventually connect the last fixture's output to a DMX terminator as shown in the figure below.



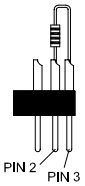
DMX TERMINATOR

In the Controller mode, the DMX output has to be connected with a DMX terminator at the last fixture in the chain. This prevents electrical noise from disturbing and corrupting the DMX control signals.
The DMX terminator is simply an XLR connector with a 120Ω (ohm) resistor connected across pins 2 and 3, which is then plugged into the output socket on the last projector in the chain. The connections are illustrated below.



DMX TERMINATOR CONNECTION

Connect a 120Ω(OHM) resistor across pins 2 and 3 in an XLR plug and insert into the DMX out socket on the last unit in the chain.



DMX CONTROL CHANNEL FUNCTIONS

The Design 250 uses 7 DMX channels. They are listed in the following table.

CHANNAL	FUNCTION	DMX VALUE	DESCRIPTION
1	Dimmer	000-255	From black to full open in linear
2	Colour Mixing	017-035	Colour1
		036-054	Colour 2
		055-073	Colour 3
		074-092	Colour 4
		093-110	Colour 5
		111-128	Colour 6
		129-255	Mix CYM colour from slow to fast
3	Cyan	000-255	Cyan enters gradually
4	Yellow	000-255	Yellow enters gradually
5	Magenta	000-255	Magenta enters gradually
6	M-speed	000-255	Control motor speeds from fast to slow
7	Control	000-048	Reserved
		049-080	Reset
		081-112	Reserved
		113-144	Lamp OFF after 10 seconds
		145-223	Reserved
		224-255	Lamp ON

SET THE DMX START ADDRESS

Each Design 250 must be given a DMX start address so that the correct projector responds to the correct control signals. This DMX start address is the channel number from which the projector starts to “listen” to the digital control information being sent out from the controller. The Design 250 has 7 channels, so set the No.1 projector’s address 001, No.2 projector’s address 008, No.3 projector’s address 015, No.4 projector’s address 022, and so on.

Launch the projector. Press button ENTER more than 5 seconds to unlock panel.

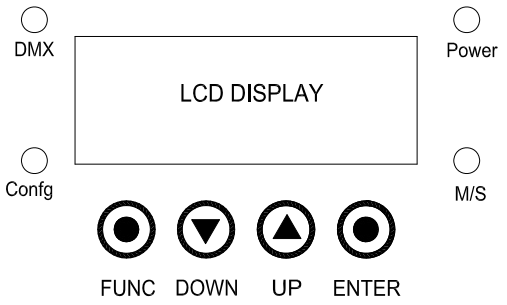
Press button ENTER, it will display address;

Press button UP and DOWN, you can set the address;

Press button ENTER to confirm; In the same time. The GREEN LED will flash one time. It means the setting has been enabled.

Press button FUNC, it will return to the upper menu one by one.

SETUP OPTIONS - PROJECTOR CONFIGURATION



Projector configuration can be set conveniently via press button switch and LCD display. After the projector is switched on, the projector will reset automatically and then the display will show the DMX start address (if you have already set the DMX start address and saved it, the screen will display the last setting).

Launch the projector. Press button ENTER more than 5 seconds to unlock panel.

Press button UP or DOWN if you want to browse through the various Setup Options. There are 11 option codes from **DMX Address** to **Lamp Manual Control**, and each code has a specific function.

Press button ENTER to save your settings or enter the next menu. Press button UP or DOWN to shift

Press button FUNC, it will return to the upper menu one by one. The display will return automatically to the function of address display if you stay for about 60 seconds defaulted.

LED INDICATION

Green: ON —— DMX signal OK or in the Master mode;
OFF —— No DMX signal;
Flash ——DMX error;

Blue: ON —— Power ON;
OFF —— Power OFF;

Orange: ON —— To set control panel;
OFF ——To stop set control panel ;

Red: ON —— Master/Slave mode enabled or in the Slave mode;
OFF ——Master/Slave mode disabled;

STAND-ALONE MODE

Without using a controller, setup options Master mode enabled, the projector will run in Stand-Alone mode with automatic programmes. See the section on “Setup Options – Projector Configuration” for full details of the available combinations.

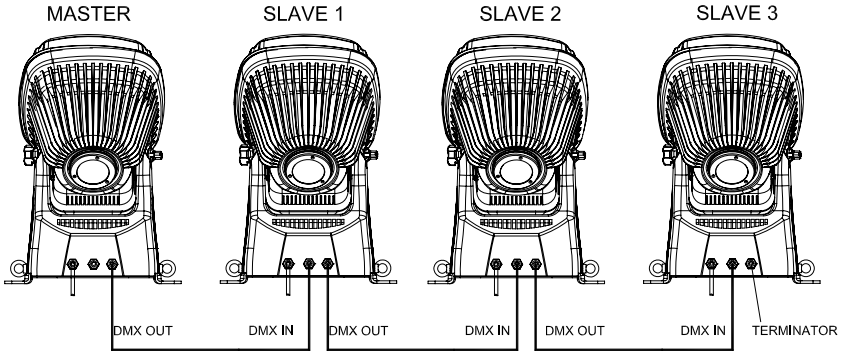
The DMX start address can be setted discretionarily.

MASTER/SLAVE MODE

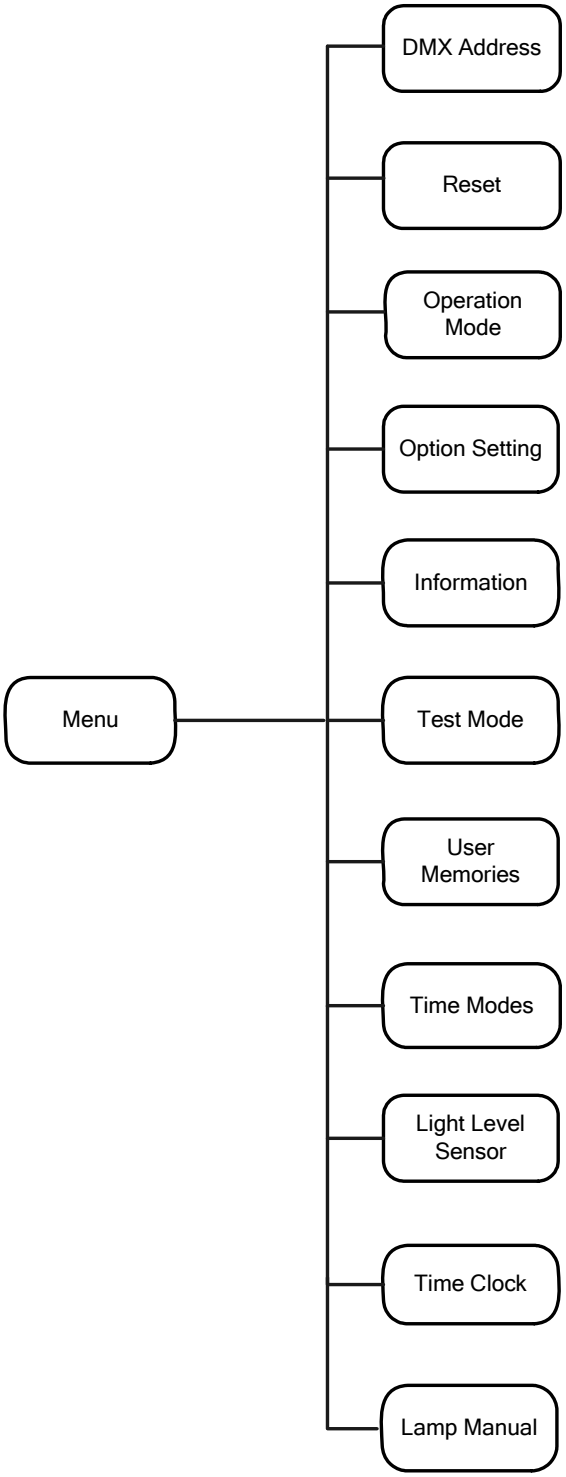
Without using a controller, many projectors can run synchronously in the Master/Slave mode by linking them with each other. Connect the master’s output to the first slave’s input, and connect the first slave’s output to the second slave’s input. The rest may be deduced by analogy. Eventually connect the last slave’s output to a DMX terminator. The example as shown below:

Select one projector as the master with setting options Master mode enabled but slaves. Regard the other projectors as the slaves setting options Slave mode enabled and all DMX start address “001”.

If the projectors work normally, the LED should like this: Master—Green LED always on. Slave—Red LED always on.



OPERATION MENU



- **SUBMENU**

DMX Address

DMX Address XXX (001~512)				

Reset

Are You Sure?				

Operation Mode

Mode = DMX Operation				
Mode = Master mode	Select Memory Preset Memory 1			
	Select Memory Preset Memory 2			
	Select Memory Preset Memory 3			
	Select Memory User Memory 1			
	Select Memory User Memory 2			
Mode = Slave mode	Select Memory Preset Memory 1	Slave Mode Type Inc Step (DMX 1)		
		Slave Mode Type Abs Step (DMX 2)		
	Select Memory Preset Memory 2	Slave Mode Type Inc Step (DMX 1)		
		Slave Mode Type Abs Step (DMX 2)		
	Select Memory Preset Memory 3	Slave Mode Type Inc Step (DMX 1)		
		Slave Mode Type Abs Step (DMX 2)		
	Select Memory User Memory 1	Slave Mode Type Inc Step (DMX 1)		
		Slave Mode Type Abs Step (DMX 2)		
	Select Memory User Memory 2	Slave Mode Type Inc Step (DMX 1)		
		Slave Mode Type Abs Step (DMX 2)		
Mode = Static Scene				

Option Settings

Option Lamp Control	Lamp Control By Power On			
	Lamp Control By Control Channel			
	Lamp Control By DMX Present			
Option Display Mode	Display On Always			
	Display Off After Delay			
Option Display Dimming	Disp Dim Level Min			
	Disp Dim Level 1			
	Disp Dim Level 2			
	Disp Dim Level 3			
	Disp Dim Level 4			
	Disp Dim Level 5			
	Disp Dim Level l6			
	Disp Dim Level 7			
	Disp Dim Level 8			
	Disp Dim Level 9			
	Disp Dim Level Full			
Option Fixture Type **（WARNING：Never change the fixture type or the system will be damaged！）**	Fixture Type = Design 150			
	Fixture Type = Design 250			
	Fixture Type = Design 400			
	Fixture Type = Design 1000			
Option Defaults	Defaults Off			
	Defaults Restore Defaults			

Information

Display Lamp Hours	Lamp Hours =XX XX is the lamps elapsed time (Press DOWN&UP&ENTER button to the next menu)	Reset Lamp Hours Are You Sure?		
Display Total Hours	Total Hours = XX XX is the project elapsed time			
Display Temperature	Temperature Display Board	Display Board = XX		
	Temperature Driver Board	Driver Board = XX		
	Temperature Lamp Housing	Lamp Housing Not Available		
Display Firmware Version	Firmware Version Display Board	Display Board = X..X.X		
	Firmware Version Driver Board	Driver Board = X.X.X		

Test Modes

Test Modes Factory Setup	Factory Setup Off			
	Factory Setup On			
Test Modes Self Test	Self Test Off			
	Self Test On			

User Memories

Edit User Memory	User Memory1	Scene XX XX (1~32)	Dimmer	DimmerXXX XXX (001~255)
			Color (Overrides CMY)	ColorXXX XXX (001~255)
			Cyan	CyanXXX XXX (001~255)
			Magenta	MagentaXXX XXX (001~255
			Yellow	Yellow XXX (001~255)
			M-Speed	M-SpeedXXX XXX (001~255)
			Delay	DelayXX XX (0.25s~100min Seconds)
			Link To Step	Link To StepXXX XXX (1~32)
	User Memory 2	Scene XX XX (1~32)	Dimmer	Dimmer XXX XXX (001~255)
			Color (Overrides CMY)	Color XXX XXX (001~255)
			Cyan	Cyan XXX XXX (001~255)
			Magenta	Magenta XXX XXX (001~255)
			Yellow	Yellow XXX XXX (001~255)
			M-Speed	M-Speed XXX XXX (001~255)
			Delay	Delay XX (0.25s~100min) Seconds
			Link To Step	Link To Step XXX (1~32)
	Static Scene	Dimmer	Dimmer XXX XXX (001~255)	
		Color (Overrides CMY)	Color XXX XXX (001~255)	
		Cyan	Cyan XXX XXX (001~255)	
		Magenta	Magenta XXX XXX (001~255)	

		Yellow	Yellow XXX XXX（001~255）	
Init User Memory	Reset User Memory 1	Reset User 1 ? <Unlock> 2 3 & 4 （Press UP/DOWN/ENTER button to set option）		
	Reset User Memory 2	Reset User 2 ? （Press UP/DOWN/ENTER button to set option）		
	Reset Static Scene	Reset Static Scn （Press UP/DOWN/ENTER button to set option）		

Timer Modes

Timer Modes On / Off	Timer Modes Always On			
	Timer Modes Use Start / Stop			
Start 1 = Power On	Set Start 1 to: Power On			
Start 1 = XX	Set Start 1 to: Start By Time	Set Start 1 Time Hour = XX	Set Start 1 Time Minutes = XX	
Start 1 = Light Level	Set Start 1 to: Light Level			
Stop 1 = Power Off	Set Start 1 to: Power Off			
Stop 1 = XX	Set Stop 1 to: Stop 1 By Time	Set Stop 1 Time Hour = XX	Set Stop 1 Time Minutes =XX	
Stop 1 = Light Level	Set Stop 1 to: Light Level			
Start 2 = Power On	Set Start 2 to: Power On			
Start 2 = xx	Set Start 2 to: Start By Time	Set Start 2 Time Hour = XX	Set Start 2 Time Minutes =XX	
Start 2 = Light Level	Set Start 2 to: Light Level			
Stop 2 = Power Off	Set Stop 2 to: Power Off			
Stop 2 = XX	Set Stop 2 to:	Set Stop 2 Time	Set Stop 2 Time	
	Stop 2 By Time	Hour = XX	Minutes =XX	
Stop 2 = Light Level	Set Stop 2 to: Light Level			

Light Level Sensor

Light Level On Set Point	Set To Current Light Level	Current On Level Set to - XX		
	Set By Entering Light Level	On Light Level = XX		
Light Level Off Set Point	Set To Current Light Level	Off Light Level Set to - XX		
	Set By Entering Off Light Level	Off Light Level = XX		
Display Current Light Level	Current Light Level = XX			

Time Clock

Get Current Time	Current Time = XX			
Set Time	Set Time Hour = XX	Set Time Minutes =XX	Current Time = XX：XX	

**The time is 24 hours；

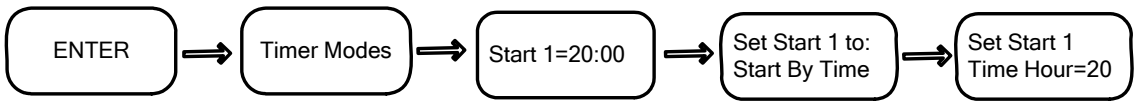
Lamp Manual Control

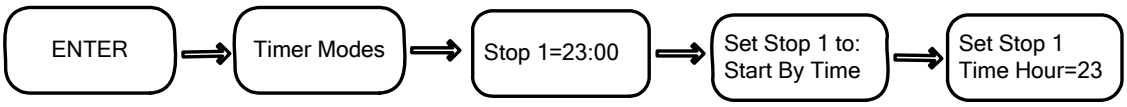
Lamp Status	Status = XX			
	Control = XX			
Turn Lamp On				
Turn Lamp Off				

** The parameter of the lamp status which only used in factory test.

- **How to use Timer Modes to control the projector?**

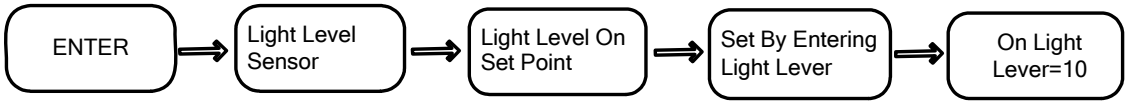
If the user needs to switch on the projector at 20:00, and switch off at 23:00. The process provided in the following figure.

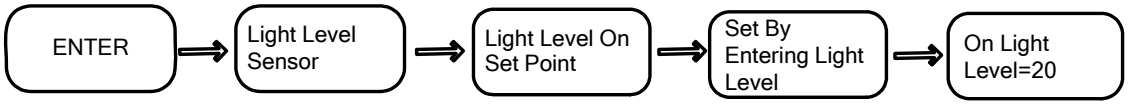




- **How to use Light Level Sensor ?**

If the user needs to switch on the projector as soon as the Light Level reaches at level 10, and switch off at level 20. The process provided in the following figure.





MAINTENANCE

If the projector's lens becomes damaged or broken it should be replaced. If the lamp becomes damaged or deformed in any way it must be replaced. If the light from the lamp appears dim this would normally indicate that it is reaching the end of its life and it should be changed at once, old lamps run to the extremity of their life can explode. If the projector does not function, check the power fuse inside the projector, it should only be replaced by fuse with the same specified value. ***When changing the fuses, please undo the 4 M6 screws on the base of the projector and then open the base cover***. Should these be damaged call a qualified technician before replacement. The projector has a thermal protection device that will switch off the projector in case of overheating.

Any maintenance work should only be carried out by qualified technicians.

KEEPING THE PROJECTOR CLEAN

To ensure the reliability of the projector it should be kept clean. The lens and dichotic colour filters should also be regularly cleaned to maintain an optimum light output. **Do NOT use any type of solvent on dichotic colour filters.**

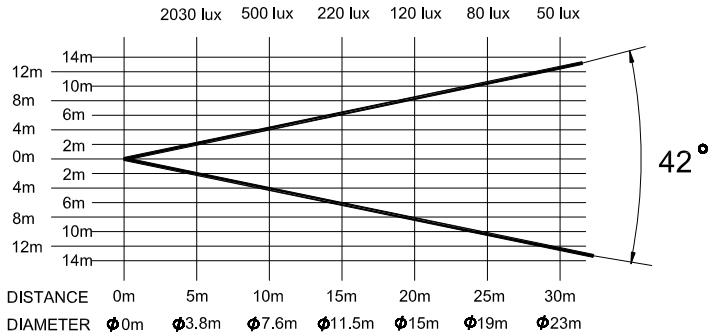
Cleaning frequency depends on the environment in which the fixture operates: damp, smoke or particularly dirty surroundings can cause greater accumulation of dirt on the unit's optics. A soft cloth and typical glass cleaning products should be used in cleaning. It is recommended to clean the external optics at least once every 20 days and clean the internal optics at least once every 30 / 60 days.

Do not use any organic solvent, e.g. alcohol, to clean the reflector, colour filters or housing of the apparatus.

TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	ACTION
The projector doesn't switch on	-The power supply is not present -The lamp is not working	Check the fuse on the power socket. Replace the lamp.
The lamp comes on but the projector doesn't respond to the controller	-Wrong DMX configuration and/or start address - Defective DMX cable	Make sure that the projector is correctly configured. Replace or repair the DMX cable.
The beam appears dim	-Dust or grease contamination on the optics. -The lamp is at the end of its life	Check the optics are clean. Replace with a new lamp of the specified type and rating.

LIGHT OUTPUT



TECHNICAL DATA

VOLTAGES:

100/120/200/220/230/240V AC, 50Hz or 60Hz

POWER CONSUMPTION:

350W @ 220V

LAMP:

Type : PHILIPS CDM-T 250W/830
Colour Temperature: 3000ºK
Socket: G12
Manufacturers Rated Lamp Life: 9000 Hours

COLOURS:

CYM colour mixing
With crossfade effect at various speeds

CHANNAL: DMX512: 7 Channels

CONTROL:

DMX512
Stand-Alone Automatic mode
Master/slave mode
Static Scene

PRESET MEMORY:

3 preset memories

PROGRAM SYSTEM:

2 user memories

BEAM ANGLE:

42º

HEAD MOVEMENT:

6º-90º (manual adjustment)

OTHER FUNCTIONS: Light Level Sensor
Timer mode
Remote reset
Lamp control

WATERPROOF:

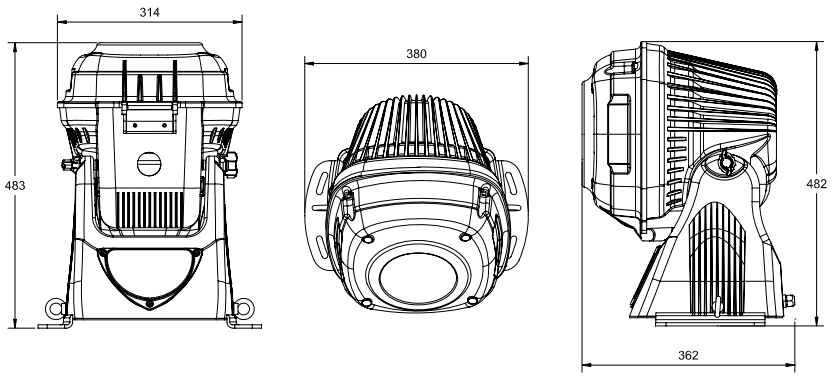
IP65

HOUSING:

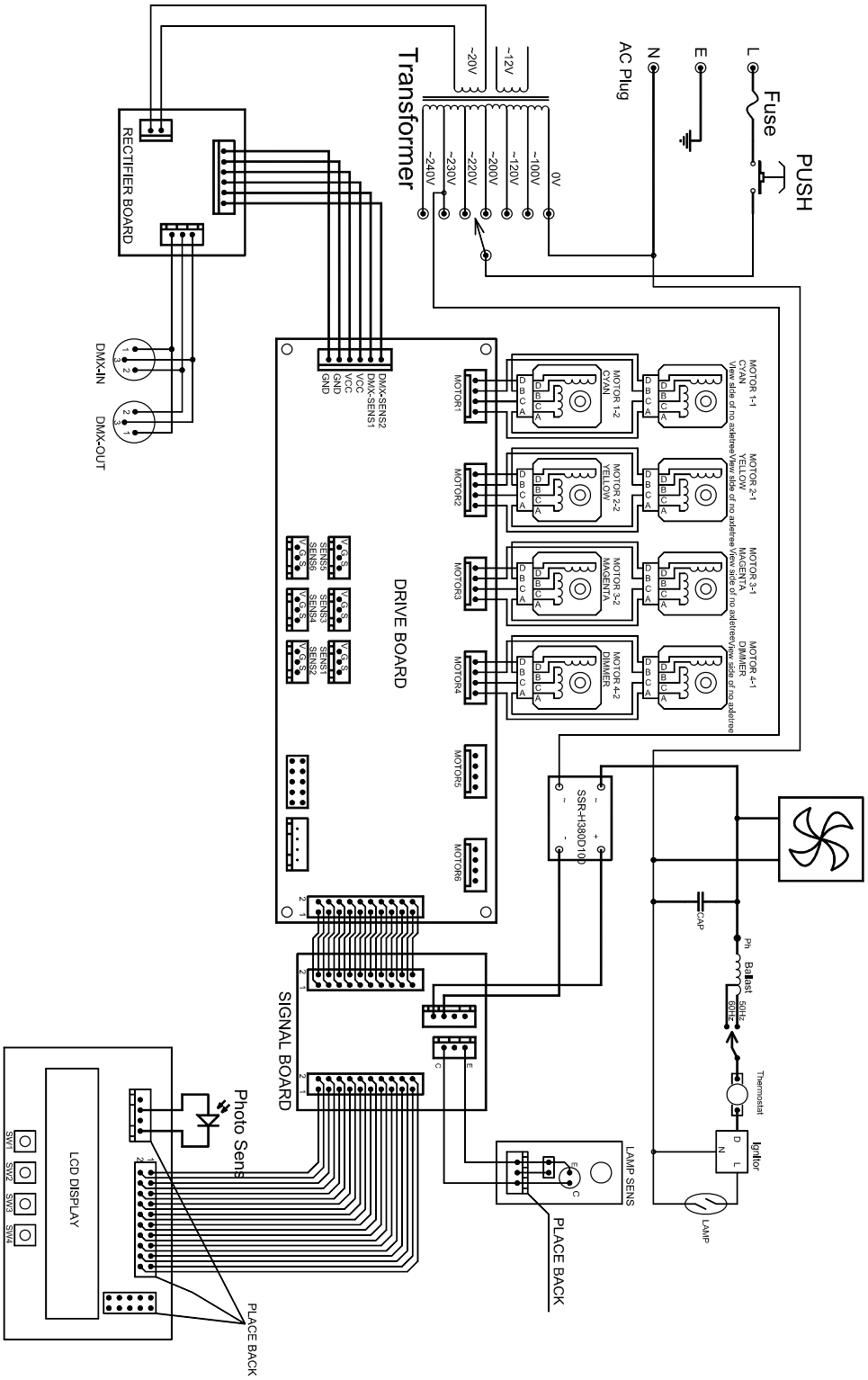
Cast aluminium with paint finish (IP65)

WEIGHT:

20.6Kg



ELECTRICAL DIAGRAM



COMPONENT ORDER CODES

NAME	PART NO.	NUMBER	REMARK
TRANSFORMER	040030038	1	100~245V 50/60Hz
THERMOSTAT	190010054	1	95°C/10A/250V
CAPACITOR	140010042	1	32µF AC 370V
BALLAST	040070023	1	250W 3.0A
IGNITOR	040090016	1	230V/50-60Hz 4~5KV
RELAY	192010026	1	
FAN	030069010	1	3E-230B-W
FUSE	270041020	1	6.3A 5*20
LAMP	100050060	1	CDM-T 250W
COVER GLASS	080090021	1	
CYAN MOTOR	030040078	2	17HS0001-06KL 5*25*11.3
YELLOW MOTOR	030040078	2	17HS0001-06KL 5*25*11.3
MAGENTA MOTOR	030040077	2	17HS0001-05KL 5*12*11.3
SHUTTER MOTOR	030040077	2	17HS0001-05KL 5*12*11.3
CYAN AND HOLDER	016330054	1	HOLDER
	090100040	1	DICHROIC COLOUR FILTER
YELLOW AND HOLDER	016330053	1	HOLDER
	090100041	1	DICHROIC COLOUR FILTER
MAGENTA AND HOLDER	016330053	1	HOLDER
	090100042	1	DICHROIC COLOUR FILTER
LAMP CONTROL PCB	230020167	1	
RECTIFICATION PCB	230020168	1	
SIGNAL PCB	230020169	1	
DISPLAY PCB	230020171	1	
MOTOR DRIVE PCB	230020172	1	

NOTE: You may order all parts of the Design 250 besides the table listed above. When ordering please state the exact name and part no.. Repairs must be carried out by a qualified technician.

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